CONTENTS

NUMBER 1

C. L. Zeng and W. T. Wu	1	Corrosion of Ni–Ti alloys in the molten $(Li,K)_2CO_3$ eutectic mixture
Y. Zuo, H. Wang, J. Zhao and J. Xiong	13	The effects of some anions on metastable pitting of 316L stainless steel
Y. Zuo, H. Wang and J. Xiong	25	The aspect ratio of surface grooves and metastable pitting of stainless steel
H. H. Hassan, S. S. Abd El Rehim and N. F. Mohamed	37	Role of ClO_4^- in breakdown of tin passivity in NaOH solutions
P. E. Alvarez, S. B. Ribotta, M. E. Folquer, C. A. Gervasi and J. R. Vilche	49	Potentiodynamic behaviour of tin in different buffer solutions
X. Zhu and T. Lei	67	Characteristics and formation of corrosion product films of 70Cu–30Ni alloy in seawater
W. Morris, A. Vico, M. Vazquez and S. R. de Sanchez	81	Corrosion of reinforcing steel evaluated by means of concrete resistivity measurements
T. Hong, Y. H. Sun and W. P. Jepson	101	Study on corrosion inhibitor in large pipelines under multiphase flow using EIS
P. Pérez, F. J. Pérez, C. Gómez and P. Adeva	113	Oxidation behaviour of an austenitic Fe–30Mn–5Al–0.5C alloy
M. C. Garcia-Alonso, G. Macchi, C. Brugnoni and M. F. Stroosnijder	129	Electrochemical release testing of a stainless steel in a glucose solution using thin layer activation
A. Afseth, J. H. Nordlien, G. M. Scamans and K. Nisancioglu	145	Effect of heat treatment on electrochemical behaviour of aluminium alloy AA3005
N. Xu, L. Zhao, C. Ding, C. Zhang, R. Li and Q. Zhong	163	Laboratory observation of dew formation at an early stage of atmospheric corrosion of metals
H. Ma, Y. Berthier and P. Marcus	171	NH_3 probing of the surface acidity of passive films on chromium
V. Guillaumin and D. Landolt	179	Effect of dispersion agent on the degradation of a water borne paint on steel studied by scanning acoustic microscopy and impedance
J. Abellà, I. Balachov, D. D. Macdonald and P. J. Millet	191	Transport processes in steam generator crevices III. Experimental results
	I	Corrosion diary
	III	Keywords for *Corrosion Science*

NUMBER 2

	207	Preface
R. A. Rapp	209	Hot corrosion of materials: a fluxing mechanism?
Y. Kawahara	223	High temperature corrosion mechanisms and effect of alloying elements for materials used in waste incineration environment
T. Ishitsuka and K. Nose	247	Stability of protective oxide films in waste incineration environment—solubility measurement of oxides in molten chlorides
N. Otsuka	265	Effects of fuel impurities on the fireside corrosion of boiler tubes in advanced power generating systems—A thermodynamic calculation of deposit chemistry
H. Habazaki, H. Mitsui, K. Ito, K. Asami, K. Hashimoto and S. Mrowec	285	Roles of aluminium and chromium in sulfidation and oxidation of sputter-deposited Al- and Cr-refractory metal alloys
M. Schütze, G. Schumacher, F. Dettenwanger, U. Hornauer, E. Richter, E. Wieser and W. Möller	303	The halogen effect in the oxidation of intermetallic titanium aluminides
M. J. Graham and R. J. Hussey	319	Characterization and growth of oxide films
K. Asami, T. Moriya, K. Hashimoto and T. Masumoto	331	Roles of temperature and humidity in the oxidation of sputter-deposited Cu–Ta alloys in air
D. J. Young and B. Gleeson	345	Alloy phase transformations driven by high temperature corrosion processes

PII: S0010-938X(02)00114-2

T. Goto, H. Homma and T. Hirai	359	Effect of oxygen partial pressure on the high-temperature oxidation of CVD SiC
K. Hashimoto, M. Yamasaki, S. Meguro, T. Sasaki, H. Katagiri, K. Izumiya, N. Kumagai, H. Habazaki, E. Akiyama and K. Asami	371	Materials for global carbon dioxide recycling
	I	Corrosion diary
	III	Keywords for *Corrosion Science*

NUMBER 3

Letter		
C. Siva Kumar, V. Shankar Rao, V. S. Raja, A. K. Sharma and S. M. Mayanna	387	Corrosion behaviour of solar reflector coatings on AA 2024T3 – an electrochemical impedance spectroscopy study
Papers		
D. J. Blackwood and S. K. M. Chooi	395	Stability of protective oxide films formed on a porous titanium
A. T. Yokobori Jr., Y. Chinda, T. Nemoto, K. Satoh and T. Yamada	407	The characteristics of hydrogen diffusion and concentration around a crack tip concerned with hydrogen embrittlement
A. Krätschmer, I. Odnevall Wallinder and C. Leygraf	425	The evolution of outdoor copper patina
M. J. Carmezim, A. M. Simões, M. O. Figueiredo and M. Da Cunha Belo	451	Electrochemical behaviour of thermally treated Cr-oxide films deposited on stainless steel
R. S. Gonçalves, D. S. Azambuja and A. M. S. Lucho	467	Electrochemical studies of propargyl alcohol as corrosion inhibitor for nickel, copper, and copper/nickel (55/45) alloy
C. Pérez, A. Collazo, M. Izquierdo, P. Merino and X. R. Nóvoa	481	Comparative study between galvanised steel and three duplex systems submitted to a weathering cyclic test
D. Ghidaoui, S. B. Lyon, G. E. Thompson and J. Walton	501	Oxide formation during etching of gallium arsenide
M. A. Arenas, A. Conde and J. J. de Damborenea	511	Cerium: a suitable green corrosion inhibitor for tinplate
V. Shankar Rao, R. G. Baligidad and V. S. Raja	521	Effect of carbon on corrosion behaviour of Fe_3Al intermetallics in 0.5 N sulphuric acid
R. Subramanian and V. Lakshminarayanan	535	Effect of adsorption of some azoles on copper passivation in alkaline medium
A. K. Neufeld, I. S. Cole, A. M. Bond and S. A. Furman	555	The initiation mechanism of corrosion of zinc by sodium chloride particle deposition
M. Lagrenée, B. Mernari, M. Bouanis, M. Traisnel and F. Bentiss	573	Study of the mechanism and inhibiting efficiency of 3,5-bis(4-methylthiophenyl)-4H-1,2,4-triazole on mild steel corrosion in acidic media
Y. Miyata and S. Asakura	589	Oxygen reduction reaction at rust free iron surface in neutral unbuffered chloride solutions
H. Inoue, K. Sugahara, A. Yamamoto and H. Tsubakino	603	Corrosion rate of magnesium and its alloys in buffered chloride solutions
K. Fushimi, T. Yamamuro and M. Seo	611	Hydrogen generation from a single crystal magnetite coupled galvanically with a carbon steel in sulfate solution
Short Communication		
J. M. Bastidas, C. L. Torres, E. Cano and J. L. Polo	625	Influence of molybdenum on passivation of polarised stainless steels in a chloride environment
	I	Corrosion diary
	III	Keywords for *Corrosion Science*

NUMBER 4

J. S. Kim, W. H. A. Peelen, K. Hemmes and R. C. Makkus	635	Effect of alloying elements on the contact resistance and the passivation behaviour of stainless steels
S. Villain, M. H. Pischedda, E. Nigrelli, F. Godiart and J. R. Gavarri	657	Degradation mechanism of electrodes subjected to alternating potentials: modeling and protection

A. U. Leuenberger-Minger, B. Buchmann, M. Faller, P. Richner and M. Zöbeli	675	Dose–response functions for weathering steel, copper and zinc obtained from a four-year exposure programme in Switzerland
Z. Li, F. Gan and X. Mao	689	A study on cathodic protection against crevice corrosion in dilute NaCl solutions
Z. Quan, S. Chen, Y. Li and X. Cui	703	Adsorption behaviour of Schiff base and corrosion protection of resulting films to copper substrate
M. Abdallah	717	Rhodanine azosulpha drugs as corrosion inhibitors for corrosion of 304 stainless steel in hydrochloric acid solution
P. L. Bonora, M. Andrei, A. Eliezer and E. M. Gutman	729	Corrosion behaviour of stressed magnesium alloys
L. Iglesias-Rubianes, P. Skeldon, G. E. Thompson, H. Habazaki and K. Shimizu	751	Transient anodic oxidation of an Al–W alloy: effects of current ratio
K. H. W. Seah, M. Krishna, V. T. Vijayalakshmi and J. Uchil	761	Effects of temperature and reinforcement content on corrosion characteristics of LM13/albite composites
M. Legrand, B. Diawara, J.-J. Legendre and P. Marcus	773	Three-dimensional modelling of selective dissolution and passivation of iron–chromium alloys
M. Wadsak, T. Aastrup, I. Odnevall Wallinder, C. Leygraf and M. Schreiner	791	Multianalytical in situ investigation of the initial atmospheric corrosion of bronze
S. A. Abd El-Maksoud	803	Studies on the effect of pyranocoumarin derivatives on the corrosion of iron in 0.5 M HCl
M. A. M. Ibrahim, S. F. Korablov and M. Yoshimura	815	Corrosion of stainless steel coated with TiN, (TiAl)N and CrN in aqueous environments
M. J. Danielson	829	Use of the Devanathan–Stachurski cell to measure hydrogen permeation in aluminum alloys
X. Y. Zhou, S. N. Lvov, X. J. Wei, L. G. Benning and D. D. Macdonald	841	Quantitative evaluation of general corrosion of Type 304 stainless steel in subcritical and supercritical aqueous solutions via electrochemical noise analysis
S.-Y. Zhang, Y.-F. Ding, S.-J. Li, X.-W. Luo and W.-F. Zhou	861	Effect of polymeric structure on the corrosion protection of epoxy coatings
K. Aramaki	871	Synergistic inhibition of zinc corrosion in 0.5 M NaCl by combination of cerium(III) chloride and sodium silicate
M. Mori, K. Miura, T. Sasaki and T. Ohtsuka	887	Corrosion of tin alloys in sulfuric and nitric acids
	I	Corrosion diary
	III	Keywords for *Corrosion Science*

NUMBER 5

Letter

G. Horányi and E. Kálmán	899	Novel application of radiotracer techniques for corrosion studies of zinc and aluminium in acidic medium

Papers

Q. Zhong	909	Study of corrosion behaviour of mild steel and copper in thin film salt solution using the wire beam electrode
K. H. W. Seah, M. Krishna, V. T. Vijayalakshmi and J. Uchil	917	Corrosion behaviour of garnet particulate reinforced LM13 Al alloy MMCs
P. Ernst and R. C. Newman	927	Pit growth studies in stainless steel foils. I. Introduction and pit growth kinetics
P. Ernst and R. C. Newman	943	Pit growth studies in stainless steel foils. II. Effect of temperature, chloride concentration and sulphate addition
S. Hiromoto, K. Noda and T. Hanawa	955	Development of electrolytic cell with cell-culture for metallic biomaterials
A. Veawab and A. Aroonwilas	967	Identification of oxidizing agents in aqueous amine–CO_2 systems using a mechanistic corrosion model
L. L. Duda	989	Kinetics of the dissolution of copper in aqueous alkaline 2,2′-dipyridyl solutions
B. Trachli, M. Keddam, H. Takenouti and A. Srhiri	997	Protective effect of electropolymerized 3-amino 1,2,4-triazole towards corrosion of copper in 0.5 M NaCl
D. Hamm, C.-O. A. Olsson and D. Landolt	1009	Effect of chromium content and sweep rate on passive film growth on iron–chromium alloys studied by EQCM and XPS

X. Shi, R. Avci and Z. Lewandowski — 1027 — Electrochemistry of passive metals modified by manganese oxides deposited by *Leptothrix discophora*: two-step model verified by ToF-SIMS

H. Habazaki, K. Shimizu, S. Nagata, P. Skeldon, G. E. Thompson and G. C. Wood — 1047 — Ionic transport in amorphous anodic titania stabilised by incorporation of silicon species

M. Edwards, L. Hidmi and D. Gladwell — 1057 — Phosphate inhibition of soluble copper corrosion by-product release

T. Ishikawa, M. Kumagai, A. Yasukawa, K. Kandori, T. Nakayama and F. Yuse — 1073 — Influences of metal ions on the formation of γ-FeOOH and magnetite rusts

J. H. Park, G. D. Lee, A. Nishikata and T. Tsuru — 1087 — Anticorrosive behavior of hydroxyapatite as an environmentally friendly pigment

A. A. El-Moneim, A. Gebert, F. Schneider, O. Gutfleisch and L. Schultz — 1097 — Grain growth effects on the corrosion behavior of nanocrystalline NdFeB magnets

V. V. Doilnitsyna — 1113 — General diffusion-kinetic model of metallic oxidation

Y. Liu, P. Skeldon, G. E. Thompson, H. Habazaki and K. Shimizu — 1133 — Anodic film growth on an Al–21at.%Mg alloy

Short Communication

Z. Szklarska-Smialowska — 1143 — Mechanism of pit nucleation by electrical breakdown of the passive film

Discussions

M. M. Scherer, J. C. Westall and P. G. Tratnyek — 1151 — Discussion on "Electrochemical and Raman spectroscopic studies of the influence of chlorinated solvents on the corrosion behaviour of iron in borate buffer and in simulated groundwater" [*Corrosion Science* 42 (2000) 1921–1939]

M. S. Odziemkowski, W. Jędral and P. M. L. Bonin — 1159 — Response to discussion on "Electrochemical and Raman spectroscopic studies of the influence of chlorinated solvents on the corrosion behaviour of iron in borate buffer and in simulated groundwater" [*Corrosion Science* 42 (2000) 1921–1939]

I — Corrosion diary

III — Keywords for *Corrosion Science*

NUMBER 6

D. Tanguy, B. Bayle, R. Dif and Th. magnin — 1163 — Hydrogen effects during IGSCC of pure Al–5Mg alloy in NaCl media

H. Ma, G. Li, S. Chen, S. Zhao and X. Cheng — 1177 — Impedance investigation of the anodic iron dissolution in perchloric acid solution

A. Pardo, E. Otero, M. C. Merino, M. D. López, M. Vázquez and P. Agudo — 1193 — The influence of Cr addition on the corrosion resistance of $Fe_{73.5}Si_{13.5}B_9Nb_3Cu_1$ metallic glass in marine environments

W. Durnie, R. De Marco, A. Jefferson and B. Kinsella — 1213 — Harmonic analysis of carbon dioxide corrosion

J. L. Mora-Mendoza and S. Turgoose — 1223 — Fe_3C influence on the corrosion rate of mild steel in aqueous CO_2 systems under turbulent flow conditions

Q. Zhong — 1247 — A novel electrochemical testing method and its use in the investigation of the self-repairing ability of temporarily protective oil coating

N. Huynh, S. E. Bottle, T. Notoya, A. Trueman, B. Hinton and D. P. Schweinsberg — 1257 — Studies on alkyl esters of carboxybenzotriazole as inhibitors for copper corrosion

Y.-J. Tan, S. Bailey and B. Kinsella — 1277 — Studying the formation process of chromate conversion coatings on aluminium using continuous electrochemical noise resistance measurements

J. R. Vilche, E. C. Bucharsky and C. A. Giúdice — 1287 — Application of EIS and SEM to evaluate the influence of pigment shape and content in ZRP formulations on the corrosion prevention of naval steel

L. W. Tsay, W. C. Lee, W. C. Luu and J. K. Wu	1311	Effect of hydrogen environment on the notched tensile properties of T-250 maraging steel annealed by laser treatment
K. Azumi, K. Iokibe, T. Ueno and M. Seo	1329	Application of AC resistmetry to monitoring of localized corrosion of iron
R. Nishimura, I. Musalam and Y. Maeda	1343	The effect of sensitizing temperature on stress corrosion cracking of type 316 austenitic stainless steel in hydrochloric acid solution
K. Aramaki	1361	Cerium(III) chloride and sodium octylthiopropionate as an effective inhibitor mixture for zinc corrosion in 0.5 M NaCl
K. Aramaki	1375	Preparation of chromate-free, self-healing polymer films containing sodium silicate on zinc pretreated in a cerium(III) nitrate solution for preventing zinc corrosion at scratches in 0.5 M NaCl
A. K. Neufeld, I. S. Cole, A. Bond and S. A. Furman	1391	Corrigendum to "The initiation mechanism of corrosion of zinc by sodium chloride particle deposition" [Corrosion Science 44 (2002) 555–572]
	I	Corrosion diary
	III	Keywords for *Corrosion Science*

NUMBER 7

E. McCafferty	1393	Oxide networks, graph theory, and the passivity of binary alloys
V. A. C. Haanappel, Y. P. Jacob and M. F. Stroosnijder	1411	The use of thin layer activation in high-temperature cyclic oxidation studies
M. Vankeerberghen and D. D. Macdonald	1425	Predicting crack growth rate vs. temperature behaviour of Type 304 stainless steel in dilute sulphuric acid solutions
D. Hamm, K. Ogle, C.-O. A. Olsson, S. Weber and D. Landolt	1443	Passivation of Fe–Cr alloys studied with ICP-AES and EQCM
Y. S. Li, Y. Niu, F. Gesmundo and F. H. Wang	1457	Grain size effects on the oxidation of two-phase Cu–Fe alloys
M. Saitou, W. Oshikawa and T. Ishikawa	1469	Anomalous dimension in pitting corrosion of SUS304 in a NaCl solution
V. Vignal, C. Valot, R. Oltra, M. Verneau and L. Coudreuse	1477	Analogy between the effects of a mechanical and chemical perturbation on the conductivity of passive films
L. Bertolini, M. Gastaldi, M. Pedeferri and E. Redaelli	1497	Prevention of steel corrosion in concrete exposed to seawater with submerged sacrificial anodes
E. Sosa, R. Cabrera-Sierra, I. García, M. T. Oropeza and I. González	1515	The role of different surface damages in corrosion process in alkaline sour media
F. Ferrer, T. Faure, J. Goudiakas and E. Andrès	1529	Acoustic emission study of active–passive transitions during carbon steel erosion–corrosion in concentrated sulfuric acid
E. Juzeliūnas, K. Leinartas, M. Samulevičienė, P. Miečinskas, R. Juškėnas and A. Sudavičius	1541	Magnetron sputtered Au–Pd–In alloys: microgravimetric and electrochemical characterisation in simulated physiological solutions
A. Conde and J. J. de Damborenea	1555	Electrochemical impedance spectroscopy for studying the degradation of enamel coatings
R. Haugsrud	1569	On the influence of sol–gel derived CeO_2 coatings on high-temperature oxidation of Co, Ni and Cu
B. Müller	1583	Corrosion inhibition of aluminium and zinc pigments by saccharides
E. Galvanetto, F. P. Galliano, A. Fossati and F. Borgioli	1593	Corrosion resistance properties of plasma nitrided Ti–6Al–4V alloy in hydrochloric acid solutions
R. L. De Rosa, D. A. Earl and G. P. Bierwagen	1607	Statistical evaluation of EIS and ENM data collected for monitoring corrosion barrier properties of organic coatings on Al-2024-T3
K. Aramaki	1621	Self-healing mechanism of an organosiloxane polymer film containing sodium silicate and cerium(III) nitrate for corrosion of scratched zinc surface in 0.5 M NaCl
Short Communication		
M. Ueda and T. Ohtsuka	1633	Luminescence from band-gap photo-excitation of titanium anodic oxide films
	I	Corrosion diary
	III	Keywords for *Corrosion Science*

NUMBER 8

A. Belghazi, S. Bohm, J. H. Sullivan and D. A. Worsley	1639	Zinc runoff from organically coated galvanised architectural steel
J. M. Hu, H. M. Meng, J. Q. Zhang and C. N. Cao	1655	Degradation mechanism of long service life Ti/IrO_2–Ta_2O_5 oxide anodes in sulphuric acid
Lj. M. Vračar and D. M. Dražić	1669	Adsorption and corrosion inhibitive properties of some organic molecules on iron electrode in sulfuric acid
J. Dumańska and K. Maksymiuk	1681	Charge trapping in bilayers of conducting polymers under open circuit conditions: a protection of conducting polymer films from spontaneous charging/discharging
W. S. Li and J. L. Luo	1695	Uniformity of passive films formed on ferrite and martensite by different inorganic inhibitors
D. D. N. Singh, R. Ghosh and B. K. Singh	1713	Fluoride induced corrosion of steel rebars in contact with alkaline solutions, cement slurry and concrete mortars
G. Patermarakis and K. Moussoutzanis	1737	Interpretation of the promoting effect of sulphate salt additives on the development of non-uniform pitted porous anodic Al_2O_3 films in H_2SO_4 electrolyte by a transport phenomenon analysis theory
L. Juffs, A. E. Hughes, S. Furman and P. J. K. Paterson	1755	The use of macroscopic modelling of intermetallic phases in aluminium alloys in the study of ferricyanide accelerated chromate conversion coatings
W. C. Luu, P. W. Liu and J. K. Wu	1783	Hydrogen transport and degradation of a commercial duplex stainless steel
P. Pérez	1793	Influence of the alloy grain size on the oxidation behaviour of PM2000 alloy
P. Kern and D. Landolt	1809	Adsorption of a bromine labeled carboxylic acid corrosion inhibitor on iron measured with EQCM, EIS and XPS
M. Kaneko and H. S. Isaacs	1825	Effects of molybdenum on the pitting of ferritic- and austenitic-stainless steels in bromide and chloride solutions
H. Miyamoto, K. Yoshimura, T. Mimaki and M. Yamashita	1835	Behavior of intergranular corrosion of ⟨011⟩ tilt grain boundaries of pure copper bicrystals
S. J. Pang, T. Zhang, K. Asami and A. Inoue	1847	Bulk glassy Fe–Cr–Mo–C–B alloys with high corrosion resistance
A. A. El-Moneim, A. Gebert, M. Uhlemann, O. Gutfleisch and L. Schultz	1857	The influence of Co and Ga additions on the corrosion behavior of nanocrystalline NdFeB magnets
C. L. Briant, Z. F. Wang and N. Chollocoop	1875	Hydrogen embrittlement of commercial purity titanium
H. Konno, K. Narumi and H. Habazaki	1889	Molybdate/Al(III) composite films on steel and zinc-plated steel by chemical conversion
	I	Corrosion diary
	III	Keywords for *Corrosion Science*

NUMBER 9

B. Beverskog, M. Bojinov, A. Englund, P. Kinnunen, T. Laitinen, K. Mäkelä, T. Saario and P. Sirkiä	1901	A mixed-conduction model for oxide films on Fe, Cr and Fe–Cr alloys in high-temperature aqueous electrolytes—I. Comparison of the electrochemical behaviour at room temperature and at 200 °C
B. Beverskog, M. Bojinov, P. Kinnunen, T. Laitinen, K. Mäkelä and T. Saario	1923	A mixed-conduction model for oxide films on Fe, Cr and Fe–Cr alloys in high-temperature aqueous electrolytes—II. Adaptation and justification of the model
F. A. Bonilla, A. Berkani, P. Skeldon, G. E. Thompson, H. Habazaki, K. Shimizu, C. John and K. Stevens	1941	Enrichment of alloying elements in anodized magnesium alloys
V. A. Alves and C. M. A. Brett	1949	Influence of alloying on the passive behaviour of steels in bicarbonate medium
F. Monteverde and A. Bellosi	1967	Oxidation behavior of titanium carbonitride based materials
C. Pan, Y. J. Su, W. Y. Chu, Z. B. Li, D. T. Liang and L. J. Qiao	1983	Hydrogen embrittlement of weld metal of austenitic stainless steels
G. Moretti and F. Guidi	1995	Tryptophan as copper corrosion inhibitor in 0.5 M aerated sulfuric acid

H. C. Lin, K. M. Lin, C. S. Lin and T. M. Ouyang	2013	The corrosion behavior of Fe-based shape memory alloys
Y. P. Jacob, V. A. C. Haanappel, M. F. Stroosnijder, H. Buscail, P. Fielitz and G. Borchardt	2027	The effect of gas composition on the isothermal oxidation behaviour of PM chromium
E. E. Abd El Aal	2041	Measurements of pitting corrosion currents of zinc in near neutral media
T. A. Truc, N. Pébère, T. T. X. Hang, Y. Hervaud and B. Boutevin	2055	Study of the synergistic effect observed for the corrosion protection of a carbon steel by an association of phosphates
V. T. Ngala, C. L. Page and M. M. Page	2073	Corrosion inhibitor systems for remedial treatment of reinforced concrete. Part 1: calcium nitrite
L. Mouri, I. Mabille, C. Fiaud and J. Amouroux	2089	Improvement of the corrosion resistance of a low carbon steel using a two step plasma treatment
L. W. Tsay, W. C. Lee, R. K. Shiue and J. K. Wu	2101	Notch tensile properties of laser-surface-annealed 17-4 PH stainless steel in hydrogen-related environments
J. M. Zhao and Y. Zuo	2119	The effect of molybdate and dichromate anions on pit propagation of mild steel in bicarbanate solution containing Cl^-
X. Zhang, W. He, I. Odnevall wallinder, J. Pan and C. Leygraf	2131	Determination of instantaneous corrosion rates and runoff rates of copper from naturally patinated copper during continuous rain events
E. Zhuravlyova, L. Iglesias-rubianes, A. Pakes, P. Skeldon, G. E. Thompson, X. Zhou, T. Quance, M. J. Graham, H. Habazaki and K. Shimizu	2153	Oxygen evolution within barrier oxide films
	I	Corrosion diary
	III	Keywords for *Corrosion Science*

NUMBER 10

A. Pakes, P. Skeldon, G. E. Thompson, S. Moisa, G. I. Sproule and M. J. Graham	2161	Anodic film growth on InP in sodium tungstate
A. G. Muñoz, S. B. Saidman and J. B. Bessone	2171	Corrosion of an Al–Zn–In alloy in chloride media
U. K. Mudali, P. Shankar, S. Ningshen, R. K. Dayal, H. S. Khatak and B. Raj	2183	On the pitting corrosion resistance of nitrogen alloyed cold worked austenitic stainless steels
E. Guilminot, F. Dalard and C. Degrigny	2199	Mechanism of iron corrosion in water–polyethylene glycol (PEG 400) mixtures
S. E. Ziemniak and M. Hanson	2209	Corrosion behavior of 304 stainless steel in high temperature, hydrogenated water
P. Dillmann, R. Balasubramaniam and G. Beranger	2231	Characterization of protective rust on ancient Indian iron using microprobe analyses
S. Rajendran, S. M. Reenkala, N. Anthony and R. Ramaraj	2243	Synergistic corrosion inhibition by the sodium dodecylsulphate–Zn^{2+} system
P. Szakalos, R. Pettersson and S. Hertzman	2253	An active corrosion mechanism for metal dusting on 304L stainless steel
F. Bentiss, M. Traisnel, N. Chaibi, B. Mernari, H. Vezin and M. Lagrenée	2271	2,5-Bis(*n*-methoxyphenyl)-1,3,4-oxadiazoles used as corrosion inhibitors in acidic media: correlation between inhibition efficiency and chemical structure
D. Örnek, T. K. Wood, C. H. Hsu and F. Mansfeld	2291	Corrosion control using regenerative biofilms (CCURB) on brass in different media
I. O. Wallinder, J. Lu, S. Bertling and C. Leygraf	2303	Release rates of chromium and nickel from 304 and 316 stainless steel during urban atmospheric exposure—a combined field and laboratory study
A. Amadeh, B. Pahlevani and S. Heshmati-Manesh	2321	Effects of rare earth metal addition on surface morphology and corrosion resistance of hot-dipped zinc coatings
M. Kamaya and N. Totsuka	2333	Influence of interaction between multiple cracks on stress corrosion crack propagation

A. SCHNEIDER	2353	Iron layer formation during cementite decomposition in carburising atmospheres
X. J. GUO, K. W. GAO, L. J. QIAO and W. Y. CHU	2367	The correspondence between susceptibility to SCC of brass and corrosion-induced tensile stress with various pH values
M. CHIBA and M. SEO	2379	Effects of dichromate treatment on mechanical properties of passivated single crystal iron (100) and (110) surfaces
H. BABA, T. KODAMA and Y. KATADA	2393	Role of nitrogen on the corrosion behavior of austenitic stainless steels
	I	Corrosion diary
	III	Keywords for *Corrosion Science*

NUMBER 11

M. CASTELLOTE, C. ANDRADE and C. ALONSO	2409	Accelerated simultaneous determination of the chloride depassivation threshold and of the non-stationary diffusion coefficient values
J. J. S. RODRÍGUEZ, F. J. S. HERNÁNDEZ and J. E. G. GONZÁLEZ	2425	XRD and SEM studies of the layer of corrosion products for carbon steel in various different environments in the province of Las Palmas (The Canary Islands, Spain)
L. THAIR, U. K. MUDALI, N. BHUVANESWARAN, K. G. M. NAIR, R. ASOKAMANI and B. RAJ	2439	Nitrogen ion implantation and in vitro corrosion behavior of as-cast Ti–6Al–7Nb alloy
C. P. GARDINER and R. E. MELCHERS	2459	Corrosion of mild steel in porous media
M. H. RAS and P. C. PISTORIUS	2479	Possible mechanisms for the improvement by vanadium of the pitting corrosion resistance of 18% chromium ferritic stainless steel
A. AFSETH, J. H. NORDLIEN, G. M. SCAMANS and K. NISANCIOGLU	2491	Effect of thermo-mechanical processing on filiform corrosion of aluminium alloy AA3005
X. ZHANG, S. O. PEHKONEN, N. KOCHERGINSKY and G. A. ELLIS	2507	Copper corrosion in mildly alkaline water with the disinfectant monochloramine
A. AFSETH, J. H. NORDLIEN, G. M. SCAMANS and K. NISANCIOGLU	2529	Filiform corrosion of binary aluminium model alloys
A. AFSETH, J. H. NORDLIEN, G. M. SCAMANS and K. NISANCIOGLU	2543	Filiform corrosion of AA3005 aluminium analogue model alloys
J. KAWAKITA, T. FUKUSHIMA, S. KURODA and T. KODAMA	2561	Corrosion behaviour of HVOF sprayed SUS316L stainless steel in seawater
N. HUYNH, S. E. BOTTLE, T. NOTOYA and D. P. SCHWEINSBERG	2583	Inhibition of copper corrosion by coatings of alkyl esters of carboxybenzotriazole
J. J. S. RODRÍGUEZ, F. J. S. HERNÁNDEZ and J. E. G. GONZÁLEZ	2597	Mathematical and electro-chemical characterisation of the layer of corrosion products on carbon steel in various environments
C. E. CAICEDO-MARTINEZ, E. V. KOROLEVA, G. E. THOMPSON, P. SKELDON, K. SHIMIZU, G. HOELLRIGL, C. CAMPBELL and E. MCALPINE	2611	Influence of impurities in aluminium on surface treatment
K. ARAMAKI	2621	Self-healing protective films prepared on zinc by treatments with cerium(III) nitrate and sodium phosphate
H. ASTEMAN, J.-E. SVENSSON and L.-G. JOHANSSON	2635	Oxidation of 310 steel in H_2O/O_2 mixtures at 600 °C: the effect of water-vapour-enhanced chromium evaporation
Short Communication		
M. FORSYTH, C. M. FORSYTH, K. WILSON, T. BEHRSING and G. B. DEACON	2651	ATR characterisation of synergistic corrosion inhibition of mild steel surfaces by cerium salicylate
	I	Corrosion diary
	III	Keywords for *Corrosion Science*

NUMBER 12

B. Liu, Y. Li, H. Lin and C.-n. Cao	2657	Effect of PVC on the diffusion behaviour of water through alkyd coatings
C. P. Gardiner and R. E. Melchers	2665	Corrosion of mild steel by coal and iron ore
I. Betova, M. Bojinov, T. Laitinen, K. Mäkelä, P. Pohjanne and T. Saario	2675	The transpassive dissolution mechanism of highly alloyed stainless steels I. Experimental results and modelling procedure
I. Betova, M. Bojinov, T. Laitinen, K. Mäkelä, P. Pohjanne and T. Saario	2699	The transpassive dissolution mechanism of highly alloyed stainless steels II. Effect of pH and solution anion on the kinetics
Z. Ashitaka, P. Skeldon, G. E. Thompson, K. Shimizu and H. Habazaki	2725	Enrichment behaviour of gallium in heat and surface treatments of Al–Ga foils
S. Mathieu, C. Rapin, J. Hazan and P. Steinmetz	2737	Corrosion behaviour of high pressure die-cast and semi-solid cast AZ91D alloys
K. W. Chung, Y. T. Kho and K. B. Kim	2757	Oxidation behavior of $Ni_xFe_{1-x}(OH)_2$ in Cl^--containing solution
Z. Qingdong and Z. Zhao	2777	Study of anti-contamination performance of temporarily protective oil coatings using wire beam electrode
Q. Qu, C. Yan, Y. Wan and C. Cao	2789	Effects of NaCl and SO_2 on the initial atmospheric corrosion of zinc
L. G. Andión, P. Garcés, R. Lapuente, J. L. Vázquez and F. Cases	2805	Corrosion behaviour at the interface of steel bars embedded in cement slurries. Effect of phenol polymer coatings
C.-J. Park and H.-S. Kwon	2817	Effects of aging at 475 °C on corrosion properties of tungsten-containing duplex stainless steels
M. G. Alvarez, S. A. Fernández and J. R. Galvele	2831	Effect of temperature on transgranular and intergranular stress corrosion crack velocity of Ag–Au alloys
H.-Y. Liou, R.-I. Hsieh and W.-T. Tsai	2841	Microstructure and stress corrosion cracking in simulated heat-affected zones of duplex stainless steels
M. A. Paez, A. Sandoval, Y. Sepulveda, A. Monsalve, P. Skeldon, G. E. Thompson and X. Zhou	2857	Anodic oxidation of Al–Ag alloys
Short Communication		
M. L. Free	2865	Understanding the effect of surfactant aggregation on corrosion inhibition of mild steel in acidic medium
	I	Corrosion diary
	III	Index for volume 44, 2002
	XXIX	Keywords for *Corrosion Science*